

ANNUAL INDUSTRIAL STORMWATER AND BMP TRAINING

5 Dec 2017 & 19 Dec 2017

Stu Eyler Kevin Goodell ES Stormwater Section



Welcome!



- Introductions and Announcements.
- You are here for required Annual Industrial Storm Water and BMP Training.
- Make sure you sign in.
- Pick up a training handout.
- Pick up your certificate after training.

Welcome!



Purpose of this training is to:

- Summarize the Industrial Storm Water Program
- Review the Permit Requirements
- Identify New Level 1 Facilities and Level 2 Facilities: Requirements, Consequences, and Solutions
- Review Best Management Practices

Who is in Attendance?



- CPEN Permitted Industrial Facilities
 - Las Pulgas and San Onofre Landfills
 - Sewage Treatment Plants 3 and 11, SRTTP, NRTTP
 - Main Recycling Center
 - DLA Disposition Services Pendleton
 - Southwest Region Fleet Transport
 - Marine Corps Air Station
- FMD Supervisors
- FMD QA/QC
- FMD Area Facility Managers
- ES Inspectors



Outline



- Overview of Permit Requirements
- Sampling Program Summary
 - Sampling Locations
 - Sampling Analytes
- Monthly Non-Stormwater Observations and BMP Monitoring
- Numeric Action Levels (NALs)
- Tiered Performance Standards: Baseline, Level 1, and Level 2
- Sampling Exceedances
- ERA Evaluations
- Compliance Liabilities
- Projects
- Camp Pendleton BMPs
- Questions



Overview of Permit Requirements



- Collect four samples per year.
- Sample all industrial drainage areas.
- Perform monthly non-stormwater and BMP observations.
- > Perform Annual Comprehensive Facility Compliance Evaluations.
- Implement specific Minimum BMPs.
- Evaluate sampling results against Numeric Action Levels (NALs).
- Prepare Level 1 and Level 2 Exceedance Response Actions and reports.
- SWRCB posts Annual Reports and SWPPPs online for public view.

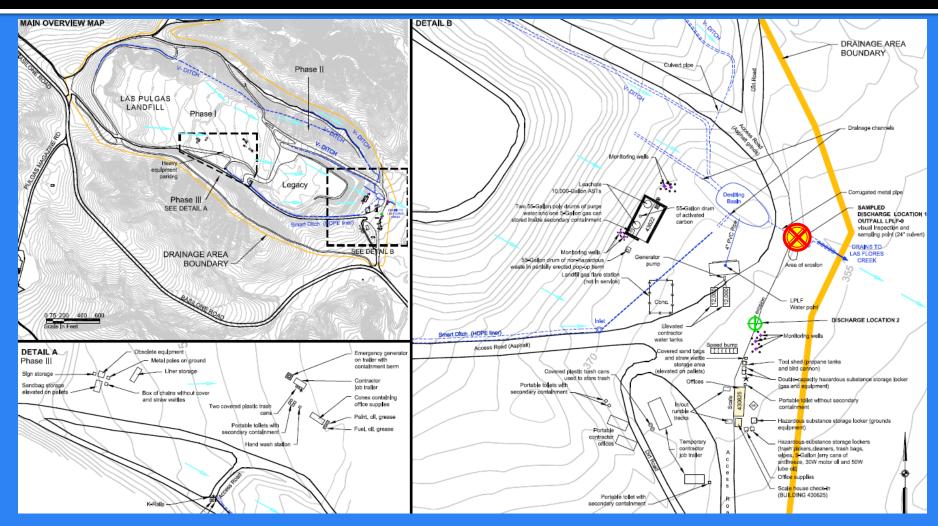
Sampling Program



- Collect 4 samples per outfall per year.
 - 2 QSEs collected between July 1st and December 31st.
 - 2 QSEs collected between January 1st and June 30th.
 - ➤ A Qualifying Storm Event (QSE) is an event that produces a discharge for at least one drainage area and is preceded by 48 hours without a discharge from any drainage area.
- All drainage areas are sampled.

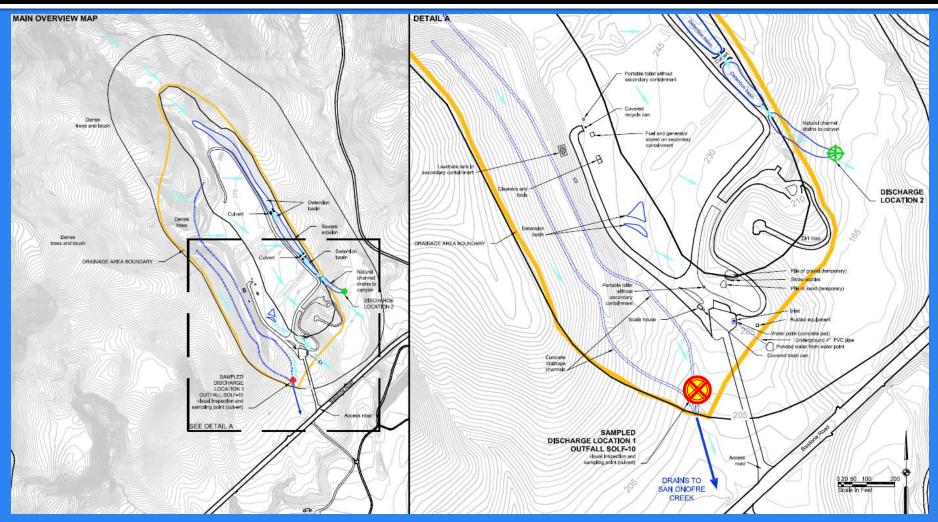
Sampling Location at LPLF





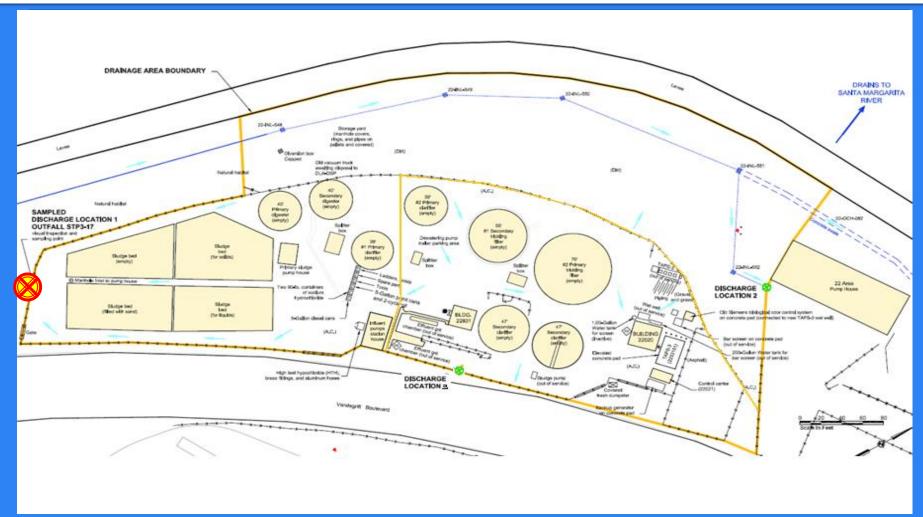
Sampling Location at SOLF





Sampling Location at STP3





Sampling Location at STP11

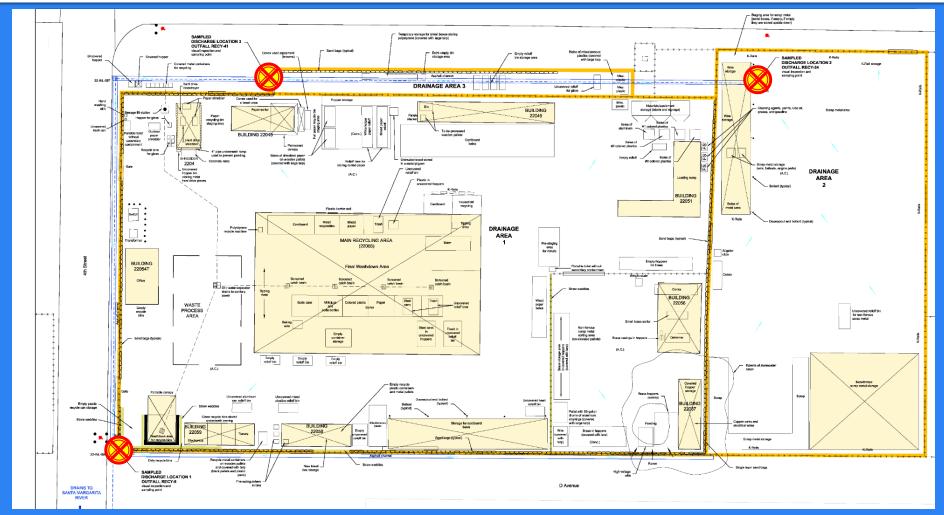






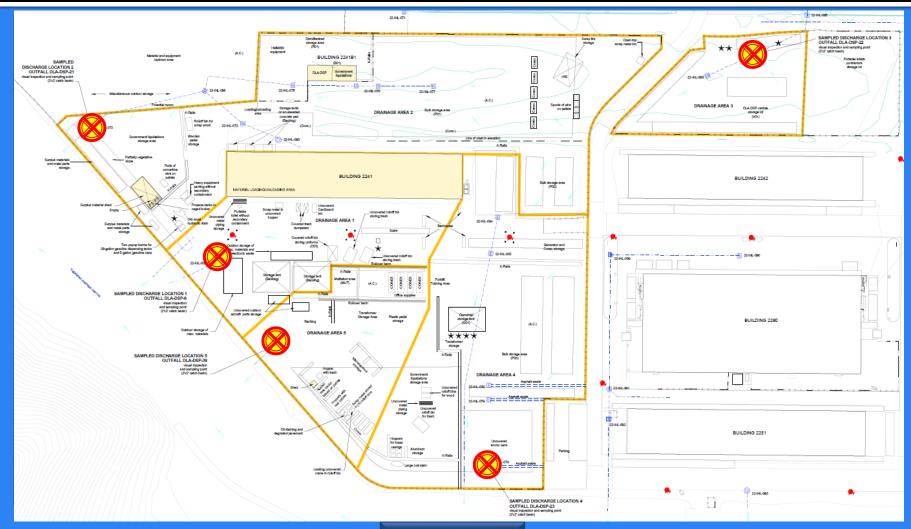
Sampling Locations at the Main Recycling Center





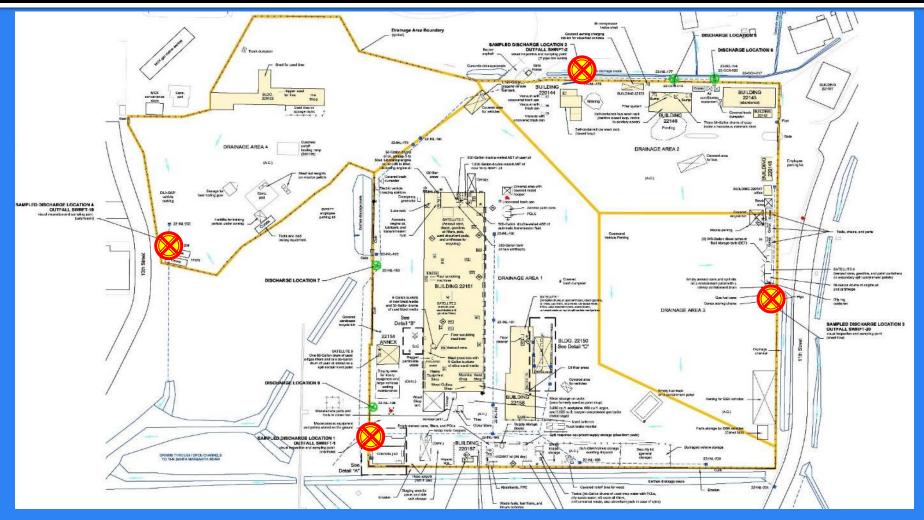
Sampling Locations at DLA-DSP





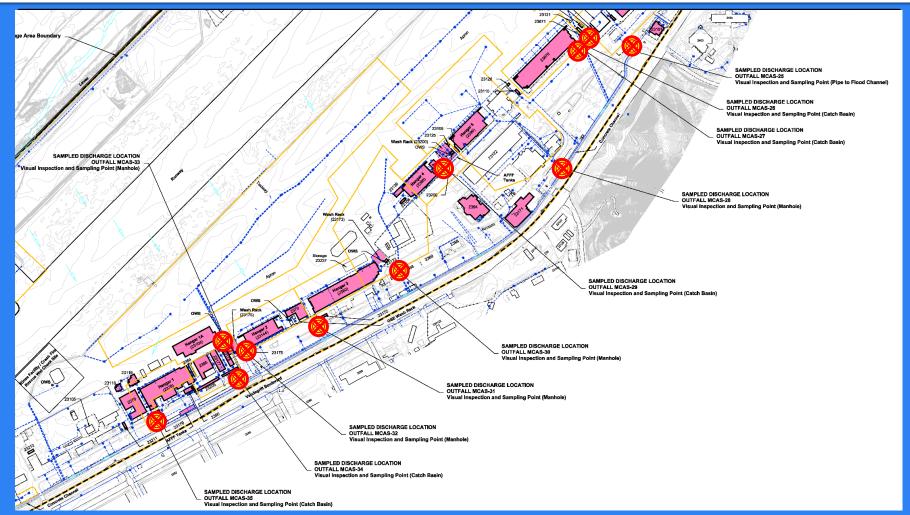
Sampling Locations at SWRFT





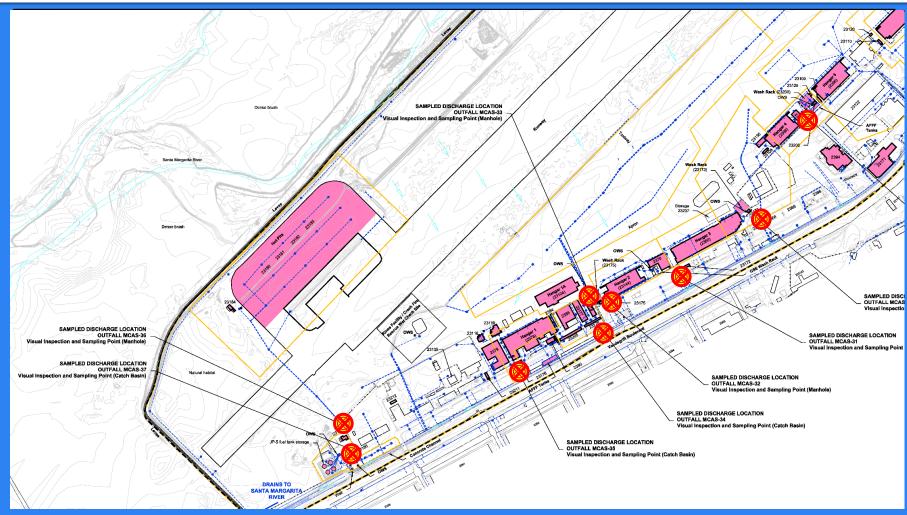
Sampling Locations at MCAS - East





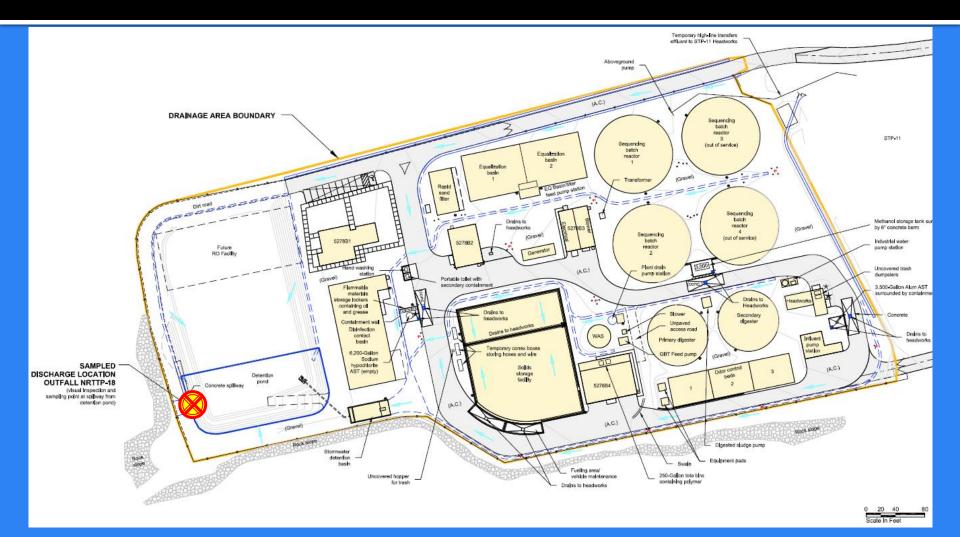
Sampling Locations at MCAS - West





Sampling Location at NRTTP





Sampling Location at SRTTP







Facility	Sampling Point	Sampled Analytes	Problem Analytes	Likely Sources
Landfills	LPLF-9 SOLF-10	TSS, pH, O&G Fe BOD	TSS Fe BOD	 Sediment from exposed and vegetated slopes Unpaved roadways Erosion from the detention basin itself
Treatment Plant STP-3	STP ₃ -17	TSS, pH, O&G TP NH3, TKN, N+N BOD Total Coliform Fecal Coliform Enterococcus	Nitrate+Nitrite	 Vegetation immediately surrounding the outfall Run-on from an area of burnt vegetation upgrade of the outfall Equipment tracking materials out of sludge beds Wind transport of sludge bed material Dead leaf litter and plant material around sludge beds



Facility	Sampling Point	Sampled Analytes	Problem Analytes	Likely Sources
Treatment Plant STP11	STP11-38	TSS, pH, O&G BOD TP NH ₃ , TKN, N+N	TSS Nitrate-Nitrite	 Sediment, vegetation at facility Run-on from surrounding areas Vegetation near outfall Wind transport sludge material Vehicle tracking sludge material
Main Recycling Center	RECY-8* RECY-24 RECY-41*	TSS, pH, O&G Metals (Al, Cu, Fe, Pb, Zn) BOD, COD, TP NH3, TKN, N+N Total Coliform* Fecal Coliform* Enterococcus*	TSS Metals (Al, Cu, Fe, Zn) BOD COD Nitrate-Nitrite	 Accumulated sediment Uncovered metal/scrap, equipment, hoppers Metals bound to sediment Exposed Trash/Food/Paper Food leachate/spills
DLA-DSP	DLA-DSP-6 DLA-DSP-21 DLA-DSP-22 DLA-DSP-23 DLA-DSP-39	TSS, pH, O&G Metals (Al, Cu, Fe, Pb, Zn) COD TPH (gas & diesel)	Metals (Al, Cu, Zn) COD	 Accumulated sediment Uncovered metal/scrap, equipment, hoppers Metals bound to sediment





Facility	Sampling Point	Sampled Analytes	Problem Analytes	Likely Sources
SWRFT	SWRFT-1 SWRFT-2* SWRFT-19 SWRFT-20	TSS, pH, O&G TP MBAS* TPH (gas & diesel)	TSS pH	 Accumulations of sediment around outfalls, storage areas Exposed areas around outfalls Vehicles/equipment transferred to facility
MCAS	MCAS-25 through MCAS-37 (MCAS-36)*	TSS, pH, O&G BOD COD TP NH3, TKN, N+N MBAS TPH (diesel), TPH (JP-5) Total Coliform* Fecal Coliform* Enterococcus*	pH Nitrate+Nitrite	 Mop water, improper washing/hosing off equipment Concrete runoff from recent construction Leaves, grass cuttings, woody materials, vegetation growing inside and around drains throughout facility and inside the stormwater conveyance system



Facility	Sampling Point	Sampled Analytes	Problem Analytes	Likely Sources
NRTTP	NRTTP-18	TSS, pH, O&G TP NH ₃ , TKN, N+N BOD	None	NA
SRTTP	SRTTP-12	TSS, pH, O&G TP NH3, TKN, N+N BOD Total Coliform Fecal Coliform Enterococcus	None	NA

Monthly Non-Stormwater Observations and BMP Monitoring

- > Monthly Inspections 3rd week of every month.
- Check authorized (fire hydrant flushing, AC condensate) and unauthorized non-stormwater discharges.
- Identify significant changes to industrial operations/procedures.



Monthly Non-Stormwater Observations and BMP Monitoring

- Evaluate BMP Implementation and Deficiencies.
 - Are materials that could impact stormwater properly stored?
 - Solids stored off the ground?
 - Liquids stored in secondary containment?
 - Spill kits present? Drip pans in use?
 - Recycle bins/trash dumpsters closed?
 - Metals covered?
 - Sediment and trash swept up?



Numeric Action Levels (NALs) and NAL Exceedances



- > Instantaneous Maximum NAL Exceedance:
 - Two or more individual sample results for a parameter taken at the facility during the monitoring year exceed the Instantaneous Maximum NAL.
 - Applies to pH, TSS, and O&G only.
- Annual NAL Exceedance:
 - Average of all analytical results for a parameter taken at the facility during the monitoring year exceeds the Average NAL.

Numeric Action Levels (NALs) and NAL Exceedances



- Exceedance of an Instantaneous Maximum NAL or Annual NAL is **NOT** a violation of the permit.
- Exceedance of a NAL requires the discharger to complete Exceedance Response Actions (ERAs).
- Failing to complete a required ERA IS a violation.

Tiered Performance Standards



Levels: Baseline



→ Level 1 → Level 2









- > All facilities start at Baseline status for all parameters.
- > NAL Exceedances trigger the next level the following year.
 - Level 1 = more non-structural BMPs
 - Level 2 = construct treatment controls, conduct studies
- Improvement = reduced level = less requirements.

Baseline Status



- GOAL = stay at Baseline.
- After exceedances, Goal is to return to Baseline.







Reduce Liability for the Base!





- When a NAL is exceeded for any parameter
 (ex. TSS), status changes from Baseline to Level 1.
 - Pollutant sources must be evaluated by October 1^{st.}
 - SWPPP is revised with additional BMPs implemented.
 - Level 1 Exceedance Response Action report submitted by January 1st.
- Goal: Return to Baseline after 4 consecutive results following BMP Implementation do not exceed NAL.





- > While in Level 1, if a NAL is exceeded again for the same parameter, status changes to Level 2.
 - Level 2 Exceedance Response Action Plan by January 1^{st.}
 - Implementation of ERA Plan and a Technical Report by the following January 1st.
 - Requires studies and structural BMPs (ex. filtration systems, treatment systems, shelters).
 - Will be EXPENSIVE and may disrupt facility operations.





- Each Level 2 Action Plan requires one of the following:
 - Industrial Activity BMP Demonstration
 - Non-Industrial Pollutant Source Demonstration
 - Natural Background Pollutant Source Demonstration





- Returning to Baseline:
 - May be able to return to baseline after performing an Industrial Activity BMPs Demonstration study and 4 consecutive results do not exceed a NAL.
 - Cannot return to Baseline if performing:
 - Non-Industrial Pollutant Source Demonstration
 - Natural Background Pollutant Source **Demonstration**

Level Status for

Remains at Level 1: Nitrate+Nitrite

New Level 1: Nitrate+Nitrite

New Level 1: Nitrate+Nitrite

Remains at Level 1: Al, COD

Remains at Level 1: pH, TSS

Remains at Level 1: pH

Remains at Level 1: TSS, Al, Fe

Remains at Level 1: TSS



Level 2: TSS, Fe

Level 2: TSS, Fe

Level 2: Cu, Zn

Level 2: BOD, COD, Cu, Zn

Level 2: Nitrate+Nitrite

	Sampling	Exceeda	nces
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New Level 1: BOD

Las Pulgas Landfill

San Onofre Landfill

Sewage Treatment

Sewage Treatment

Main Recycling

DLA-Disposition

SW Region Fleet

Transportation

MCAS Camp

Pendleton

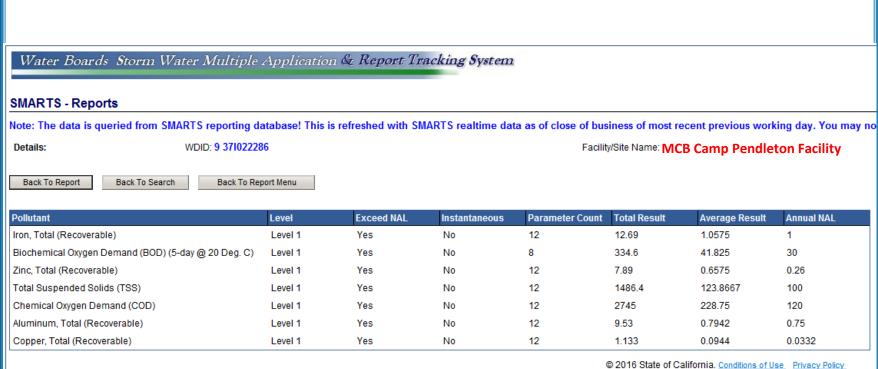
Services Pendleton

Plant 3

Plant 11

Sampling Exceedances				
Facility Status	Level 1 Exceeding Parameters	Level 2 Exceeding Parameters		

Your Sampling Data is Open to Public View!



Results of Level 1 ERA Evaluations



-- Familiar Problems --

Pollutant Sources	Recommendations	
Accumulated sediment, trash, debris	 Eliminate erosion. Control sediment tracking. Frequently sweep paved surfaces. 	
Outdoor storage of materials	 Store materials under cover or within a berm. Cover materials and containers before rain events. Elevate materials up off the ground. 	
Degrading/rusting containers, equipment, materials	Maintain/repair outdoor containers, equipment, materials.	
Chemical/material leaks and spills	 Inspect vehicles and equipment for leaks. Perform maintenance indoors. Wash vehicles and equipment at designated wash facilities only. Use drip pans or absorbent pads. Store materials and leaking equipment in containment. Promptly clean up spills and dispose of absorbent materials. Protect storm drain inlets with absorbent booms and insert filters. 	

Results of Level 1 ERA Evaluations



-- New Findings --

Pollutant Sources

Las Pulgas Landfill

Biological Oxygen Demand (BOD) – a
 possible source is decomposing organic
 matter (plant/animal) that may have
 accumulated within the slope drains,
 desilting basin, and outfall pipe

Recommendations

- Clear sediment and debris from the desilting basin quarterly and before storm events. Maintain sufficient storage capacity.
- Inspect the pipe slope drains and the outfall pipe at the end of each storm event and quarterly. Maintain free of debris, sediment, vegetation, and animal waste.
- Pipe slope drains should be properly connected to V-ditches or other conveyance channels to eliminate erosion and sediment washout.
- Drain water from the detention basin after storm events by using the water for dust control.

Results of Level 1 ERA Evaluations



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New Findings				
Pollutant Sources	Recommendations			
Sewage Treatment Plant 11 Nitrate+Nitrite - Possible sources include:	Maintain effective perimeter controls (gravel bags, wattles) near outfalls.			
Wind transport of sludge bed material	Maintain effective perimeter controls (gravel bags, wattles) near access road to prevent run-on to the site.			
 Vehicle tracking of sludge bed material 	Regularly inspect and replace BMPs when necessary.			
 Offsite sediment and plant debris are transported onsite by wind and rain 	Maintain a sandbag barrier along the southern fenceline to settle out solid materials and allow runoff to evaporate.			
Plants that grow and die on the site itself	Collect and dispose of the settled materials before rain events.			
 Natural vegetation and tree adjacent to sampling point which has since been removed. 	Live/decomposed vegetation should be removed from along the perimeter fence lines and from within the facility and should be disposed of properly.			

Results of Level 1 ERA Evaluations



-- New Findings --

Pollutant Sources	Recommendations
Main Recycling Center Nitrate+Nitrite - Possible sources include:	 Sediment, trash, and live/decomposed vegetation should be removed from along the perimeter fence lines and disposed of properly.
 Live and decomposed vegetation that remains along the southern fence line. 	 Sand/gravel bags should be installed, where needed, to supplement site containment and inspected frequently. Degraded bags should be replaced and/or re-bagged.
Animal feces from feral cats and raccoons present onsite.	 Maintain good housekeeping practices. Control leaks/spills and sweep regularly (close of business, immediately following bulk material removal or transport, and prior to forecasted rain events).
 Pet waste and used diapers found in the waste materials brought to the facility. 	
 Organic leachate from crushed food containers. 	 Frequently sweep areas that tend to attract animals and properly dispose of droppings. Such areas should be inspected and swept before all forecasted rain events.
 Residual food waste in cans/bottles and decomposing fiber products. 	

Results of Level 1 ERA Evaluations



-- New Findings --

Pollutant Sources	Recommendations
Main Recycling Center Nitrate+Nitrite - Possible sources include:	Develop an outreach strategy and/or emphasize in the public outreach campaign what materials are and are not acceptable for recycling.
 Live and decomposed vegetation that remains along the southern fence line. 	 Use pop-up berms or rubber dikes to enclose leaking materials. Use absorbents to collect leachate from within the bermed area or use a wet-vac and discharge to the sanitary sewer.
 Animal feces from feral cats and raccoons present onsite. 	j ,
 Pet waste and used diapers found in the waste materials brought to the facility. 	
 Organic leachate from crushed food containers. 	
 Residual food waste in cans/bottles and decomposing fiber products. 	



> LPLF:

- Expand and concrete line the detention basin and installing baffle walls
- Install additional detention basins upstream of the current one
- Install pre-cast check dams within the concrete swales



> SOLF:

- Install pre-cast check dams within the concrete swales
- Install gravel/Class 2 Road Base along upper dirt access road
- Install a detention basin or series of detention basins



Recycling Center:

- Install additional Roofs/Covers and 3 sided structures
- Regrade and install trench drains to reroute drainage to a singular exit point at the southern corner (RECY-8)
- Install a vault type filtration system at southern corner (RECY-8)
- Curb the entire facility
- Provide bermed areas for storage that drain into the Oil Water Separator.



> DLA-DSP:

- Install additional portable "Big Top" Shelters
- Regrade and re-route storm drains to create fewer outfalls
- Install sump pumps, swales, pipes as necessary to reroute drainage
- Install vault-type filtration systems immediately upstream of outfalls
- Install roofs and rollover berms at the vehicle lot
- Remove large pile of dirt at the western corner of the facility
- Repave as necessary



> MCAS:

- Replace all smart sponge filters at the facility
- Create a project to clean out all storm drains and pipes throughout the facility
- Create a project to sample the non-industrial areas of the facility to further understand whether natural or industrial sources are to blame for the exceedances

Compliance Liabilities



What is next for Camp Pendleton to maintain compliance?

- Submit Level 1 Exceedance Response Action (ERA) Reports
- Submit SWPPP Updates following Level 1 ERA Reports
- Submit Level 2 Exceedance Response Action Plans

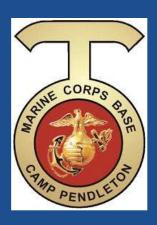
Compliance Liabilities



- To limit repeat deficiencies and reduce Base compliance liabilities:
 - ES will forward deficiencies to the facility operator.
 - Facility operator will need to address BMP deficiencies and report corrective actions to ES.
 - BMPs and Corrective Actions need to be regularly implemented by facility operators. DO NOT rely on ES to note deficiencies to trigger action.
 - Responses serve as record of effort and are maintained by ES.



Camp Pendleton's 12 General Best Management Practices (BMPs)





BMPs to implement include:				
Eliminate Non-stormwaterDischarges	 Outdoor Storage of Materials & Wastes 			
Spill Preventative, Mitigation, & Cleanup	 Outdoor Equipment Operations 			
 Vehicle, Equipment Fueling 	Waste Handling & Disposal			
 Vehicle, Equipment Cleaning 	Green Procurement			
 Vehicle, Equipment Repair 	Outdoor Storage of Surplus Material			
 Outdoor Loading/Unloading 	Contaminated or Erodible Areas			

1. Eliminate Non-Stormwater Discharges





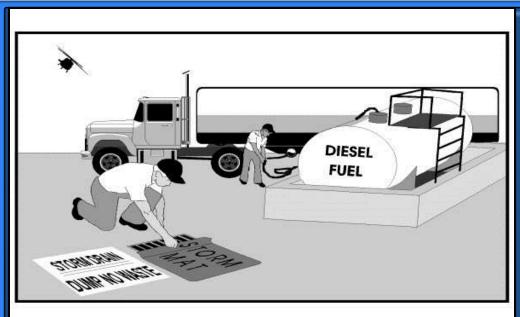


2. Spill Prevention, Mitigation, and Cleanup



3. Vehicle and Equipment Fueling







4. Vehicle and Equipment Cleaning





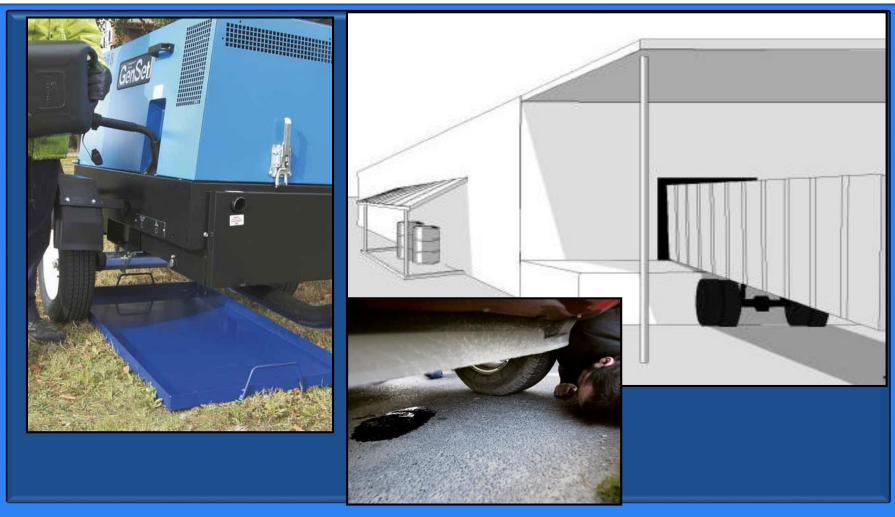
5. Vehicle, Aircraft, Equipment Repair





6. Outdoor Loading/Unloading





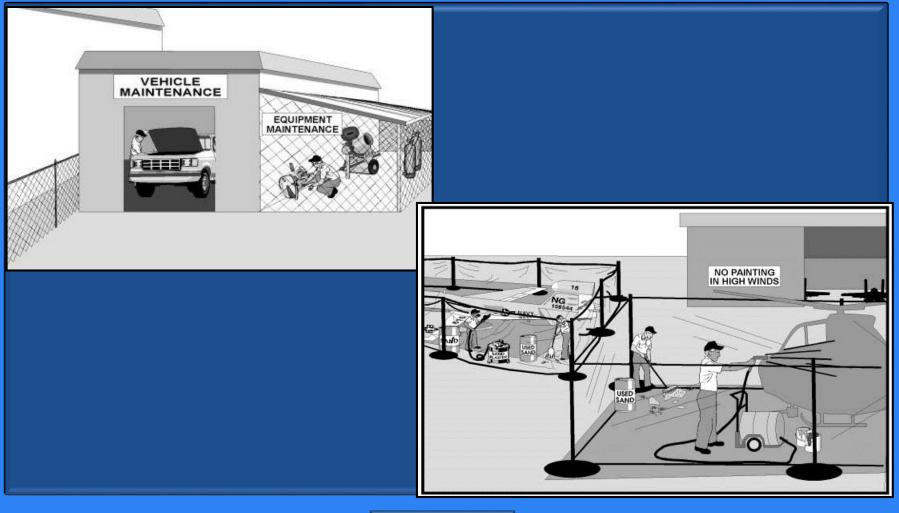
7. Outdoor Storage of Materials and Wastes





8. Outdoor Equipment Operations





9. Waste Handling and Disposal





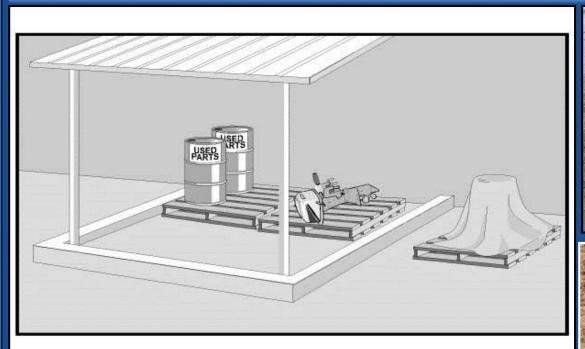
10. Green Procurement







11. Outdoor Storage of Surplus Materials

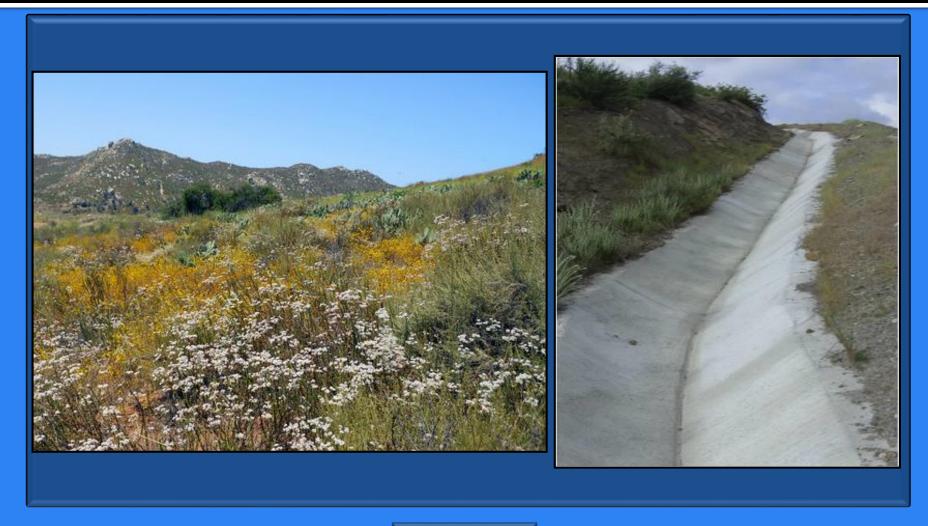






12. Contaminated or Erodible Areas





General BMP Themes



- > Keep dry materials off the ground and covered.
- > Liquids should have secondary containment.
- > Sweep regularly, never hose down site.
- > Perform maintenance indoors whenever possible.
- > Use drip pans and absorbent materials.
- > Keep spill kits close to storage areas.
- > Enclose and use a tarp for outdoor painting.

SWPPP Loop



- 1. Collect Information about Stormwater Quality
 - Who does this: ES Stormwater Section
- 2. Revise your SWPPP and BMPs
 - Who does this: ES Stormwater Section and Facility Supervisory Operator



- 3. Implement and Maintain BMPs
 - Who does this: Facility Personnel

ES is here to support the industrial facilities in maintaining compliance

Emergency Contact Information



REPORT any dumping, pumping, or questionable release of water or other liquids into storm drains or channels.

- Sewer Spills (Unity): 725-4348
- Fuel or Oil Spills <5 gal: ES Spills Section (725-9768)</p>
- Fuel or Oil Spills >5 gal: 911 then ES Spills Section (725-9768)

Questions?





Contact Information



Stu Eyler (760) 725-9760 stuart.eyler@usmc.mil



Kevin Goodell (760) 763-7880 kevin.goodell@usmc.mil

